JITC Interoperability Certification Process

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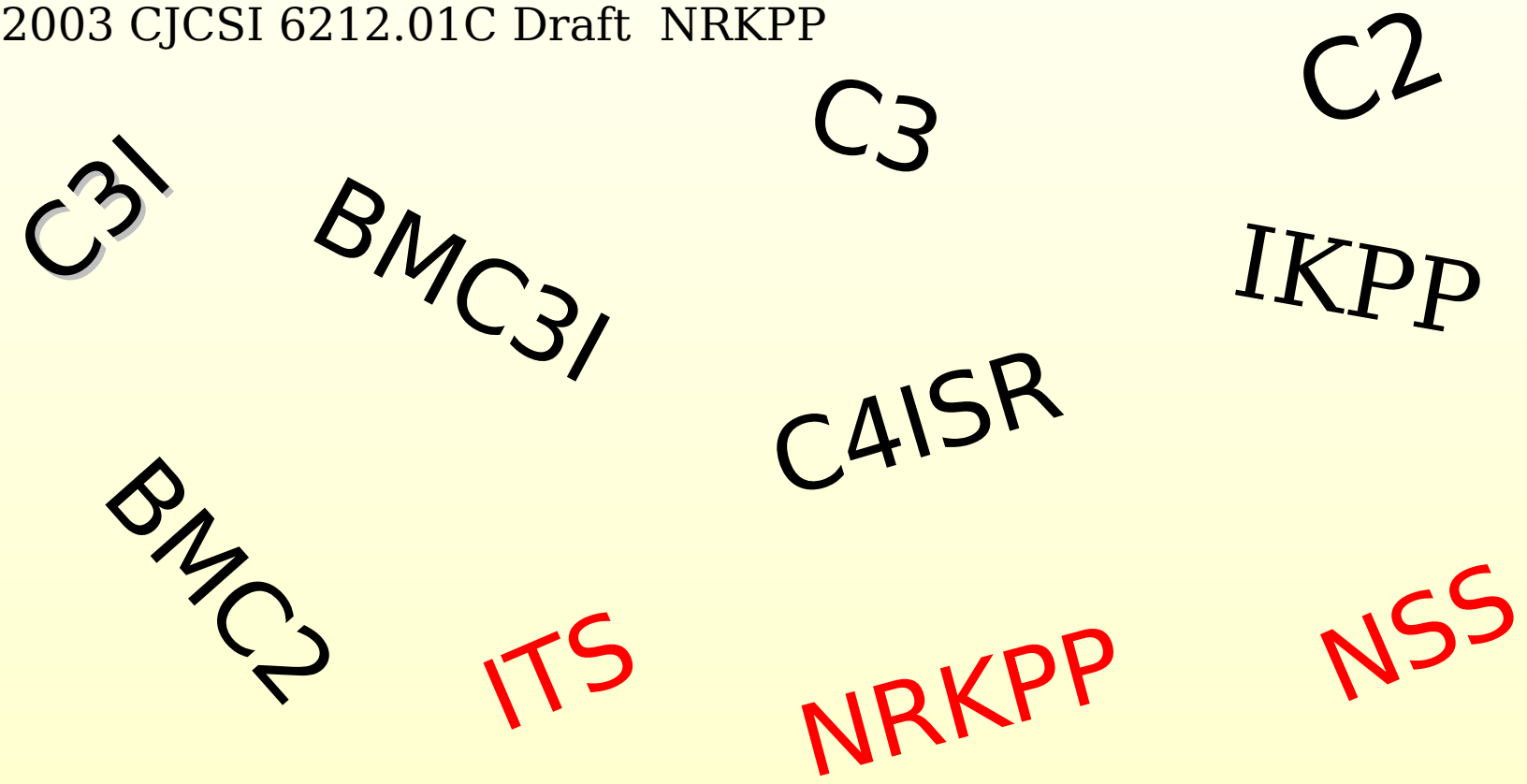
Agenda

- **A little History**
- **Directives**
- **System Certification**

Interoperability is important

1992 DODI 4630.8 published C3I Interoperability Certification
2000 DODI 4630.8 IKPP, ITS and NSS
2003 CJCSI 6212.01C Draft NRKPP



Interoperability Bullets

JOINT OPERATIONS CONCEPTS JCS VERSION 1.0 for 2003

Joint Force must sustain itself in austere global regions by becoming less dependent on existing infrastructure …. enables operations for specified time without requiring operational pause….Joint Force remains committed to full coordination and interoperability with interagency and multinational

Adm. Edmund P. Giambastiani Jr.
U.S. Navy
Commander, U.S. Joint Forces Command

ALLIED COMMAND TRANSFORMATION: "We've just had what is probably the most significant change in the NATO command structure in 51 years.... decommissioned Allied Command Atlantic, passed operational responsibilities to the Supreme Allied Commander-Europe.... created a new NATO functional organization ...co-located with JFCom called Allied Command Transformation or ACT ["ack-tee"]. It is now doing the same types of transformational things for NATO alliance that JFCom does for U.S. forces in joint force concept development and experimentation, joint force training and joint force integration and interoperability.... There's a tremendous amount of

Army Spent More Than $3 Billion To Speed Up Fielding

Army spent $3.2 billion in the past two years moving equipment such as Blue Force Tracking from development.

Combat commanders wanted intelligence, fires, and maneuver control system at a common level, and be able to see their formations, the Army invested in Northrop Grumman's [NOC] Force XXI Battle Command Brigade using IT to track vehicles and display them on a digital map the Army calls "Blue Force Tracking."

It was the Blue Force Tracking System that prevented one CO from firing on two of his units during the sandstorm of March 23. "They were about to pull the

Warfighter's View
Brief for VADM Dennis V. McGinn (N7)

- **The systems are:**
  - **Incredibly complex,**
  - ***Interfaced and interdependent,***
  - **but are <u>not necessarily *interoperable*!</u>**

- **Each point of systems integration creates the potential for *technical issues* that impose *tactical consequences!***

Interoperability involves MUCH more than just connectivity!

- **Inadequate operational system level integration documentation .**

- **The BF, as an overarching system comprised of individual ships' combat systems, must integrate seamlessly in the AOR.**

- **The warfighter must have the tools to adequately address**

IT and NSS Interoperability Defined

Interoperability. Interoperability is the ability of systems, units or forces to provide data, information, materiel, and services to and accept the same from other systems, units, or forces and to use the data, information, materiel and services so exchanged to enable them to operate effectively together. ***IT and NSS interoperability includes both the technical exchange of information and the end-to-end operational effectiveness of that exchange of information required for mission accomplishment.*** (DoDD 4630.5)

... correct information
... timely
... correct format
... useful to the warfighter

Interoperability is more than just information exchange. It ***impacts systems, process, procedures, organizations and missions*** over the life cycle and it must be balanced with information assurance

Joint Interoperability Directives & Instructions

http://jitc.fhu.disa.mil/jitc_dri/jitc.html

DoDD 4630.5

IT and NSS interoperability and supportability is essential.

DoDD 5105.19

DISA shall ensure end-to-end interoperability.

CJCSI 6212.01B

All NSS and IT, regardless of ACAT, must be tested and … certified by JITC.

DoD 4630/5000

Interoperability is the ability to provide and accept data, information, materiel, and services … and … includes both the technical exchange of information and the end-to-end operational effectiveness of that exchange, as required for mission accomplishment.

DoDI 4630.8

All systems must be tested for interoperability before fielding … and certified by JITC … throughout a

CJCSI 3170.01C

Mandates interoperability KPP for CDD,

DoD 5000 series

For IT systems, including NSS, … JITC shall provide system interoperability test certification memoranda … throughout the system life-cycle and regardless of ACAT.

Joint Interoperability Certification Authority

- DODI 4630.8
  The DISA (JITC) shall certify joint and combined IT and NSS interoperability for the Department of Defense.

- DOD 5000.2
  For IT systems, including NSS, with interoperability requirements, the Joint Interoperability Test Command (JITC) shall provide system interoperability test certification memoranda to the Director, Joint Staff J-6, throughout the system life-cycle and regardless of ACAT.

DEFENSE INFORMATION SYSTEMS AGENCY
JOINT INTEROPERABILITY TEST COMMAND
Increasing Combat Effectiveness Through Interoperability

System Certification

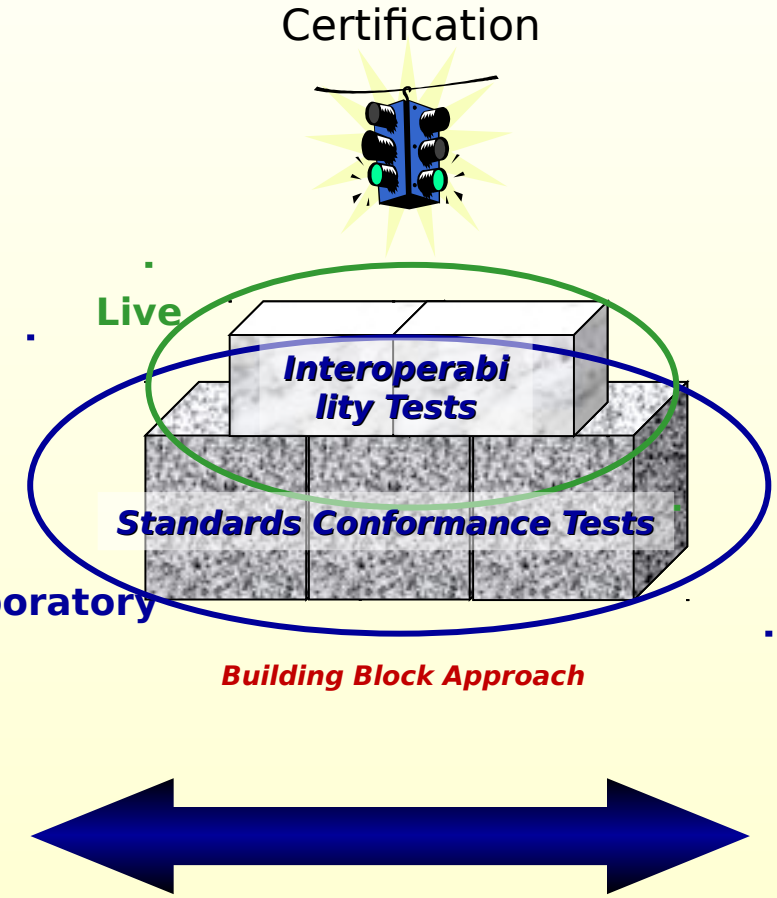
Types & Environments

Types

1. Standards Conformance
Standards conformance is the ability to adhere to rules contained in the applicable standards.

2. Joint Interoperability
Ensures that system effectively exchanges information with joint participants in both environments.

Note: Standards provide a necessary building block for ensuring interoperability, but are not sufficient to ensure that systems are interoperable in a joint environment.



Environments

1. Laboratory/HWIL
Comprehensive data collection for multiple tests under controlled conditions. Can include realistic loads and Hardware In The Loop. Test asset availability provides a representative sample of joint service participation.

2. Live Exercise/OT Event
Tests ability to effectively exchange information with joint participants in an exercise or test environment with conditions as realistic as possible. Ensures end-to-end interoperability (after component integration) to assure total system interoperability effectiveness

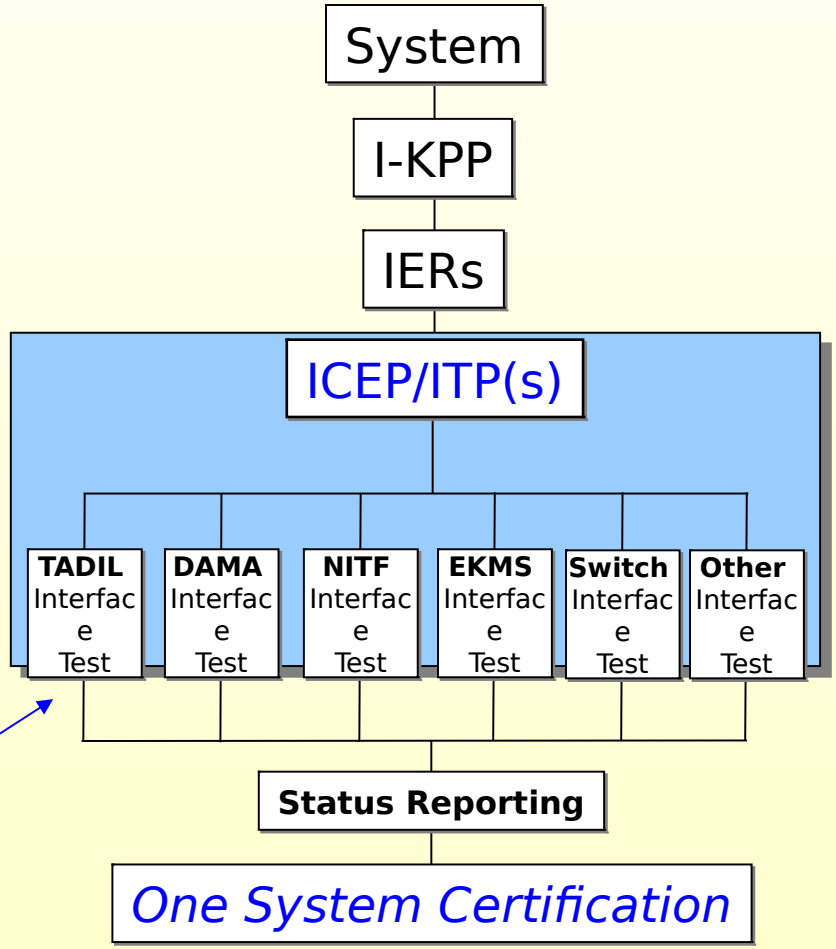
Tests are conducted in the appropriate environment

How do I know if a system has certified requirements?

- **ORD/C4ISP documents approved and contain IERs**
- **JITC System Tracking Program (STP)** - https://stp.fhu.disa.mil
  - Provides status of requirements documents (Note: Actual requirements documents are not stored in the STP)
- **J6 Assessment Tool** - Located in the Joint C4I Program Assessment Tool (JCPAT) tool suite - http://jcpat.ncr.disa.smil.mil (SIPRNET)
  - Primary source for requirements/supportability certification information
  - Available on the SIPRNET only
  - Directions on JITC specific access to JCPAT located at:
    - **Public Folders/~/JITC West/Command Information/Certification Policy**

System Certification Process

System Approach Model



Multiple test venues
Ensures a thorough look to ensure interoperability

Status Reporting

- **Standards Conformance Certification**
  - System is certified for conformance to a standard
- **System-level Interoperability Test Certification**
  - Full system certification. System meets ***all*** certified interoperability requirements (I-KPP)
- **Specified Interfaces Certification**
  - System meets ***subset*** of the certified interoperability requirements
- **Non-Certification**
  - System is fielded -- critical operational impacts expected
  - Provides a warning to the Warfighter
- **Interoperability Assessment**
  - System is not ready for interoperability certification, but PM would like to determine how well certain interfaces interoperate
  - System may lack JS certified requirements

Changes are on the Horizon

ICDs

CDD

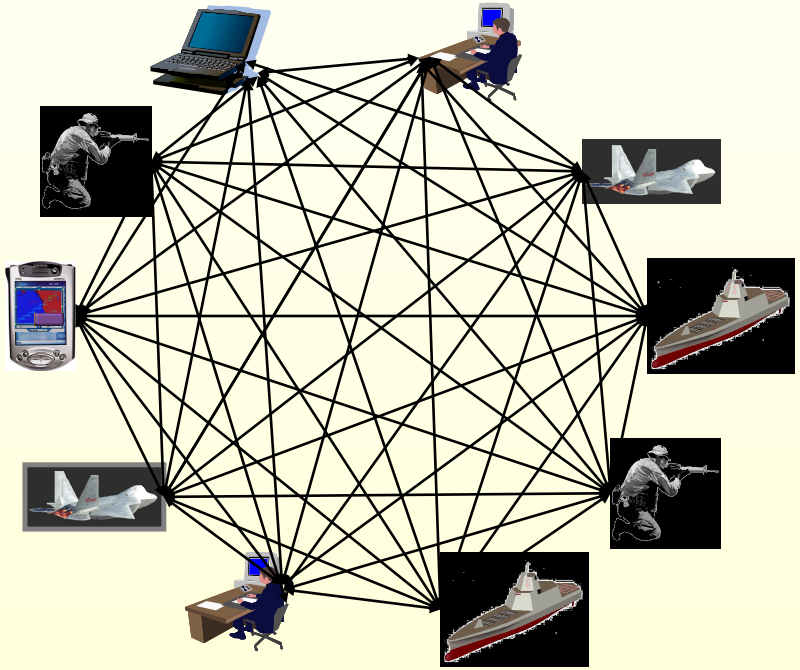
CPD

NRKPP

KIP

Interoperability KPP Challenge

One-to-One



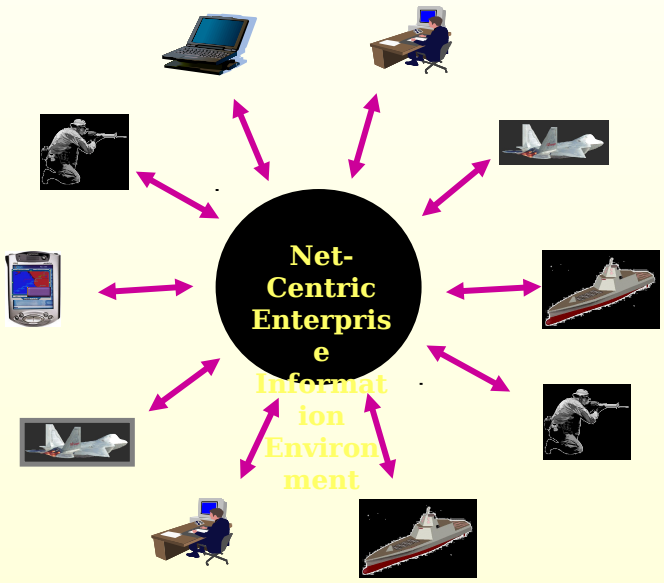
Max number of interfaces = n(n-1)/2
where n = number of systems

Current Interoperability KPP

- **One integrated architecture product (OV-3)**
- **One-to-one relationship (point-to-point or node-to-node construct)**
- **IER construct not scalable in a net-centric environment**
- **Focus is on technical exchange of information (vice exchange and use)**
- **Does not address Information Assurance (IA) requirements**

KPP Needed to Emphasize Net-Centric Concepts

Solution: Net-Centric Approach



Net-centric enterprise information environment includes:

- Generic user-interface
- Intelligent-assistant capabilities
- Net-centric service capabilities
  - Core services
  - Community of Interest (COI) services
  - Environment control services
- Enterprise management

Max number of interfaces = n, where n = number of systems

Summary

- All NSS and IT Systems must be certified for joint interoperability by the JITC
- DOD has a process with Directives
- Process is evolving to provide better equipment to the warfighters

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Questions

Theater High Altitude Area Defense

OPERATIONAL CONCEPT and SYSTEM INTERFACE DESCRIPTION VIEWS